EFFECT OF THE SEED CUT ON JETFINDING

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- **Preamble**
  - Low-E_T jets
  - Updated HCAL
  - Currently used E_T^{seed} = 1 GeV
- **Results**
  - Jet multiplicity vs seed cut
  - Jetfinding efficiency vs seed cut

PREAMBLE

- **Low-E_T jets from $Z'(120)$ ~ 30 - 50 GeV**

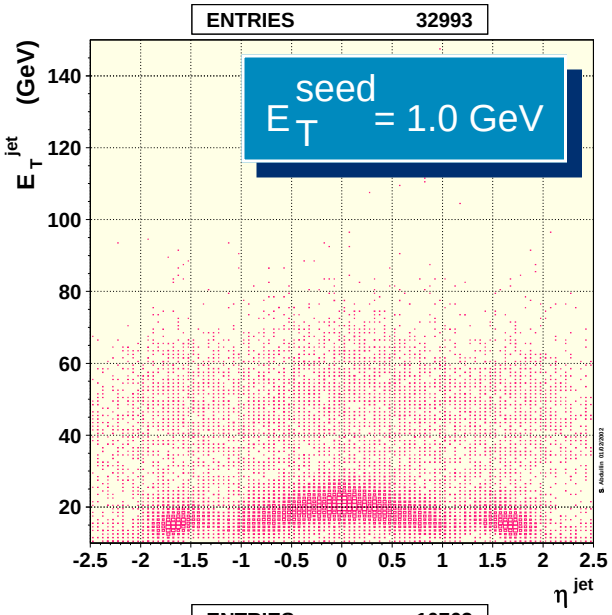
- **Updated HCAL readout simulation**
  - realistic noise
  - HPD photostatistics effect
  - signal integration in two 25 ns time buckets
  - ADC quantization (of each time bucket measurement) with variable-bin multi-range scale
  - signal and noise expressed in terms of photo electrons
  - ...

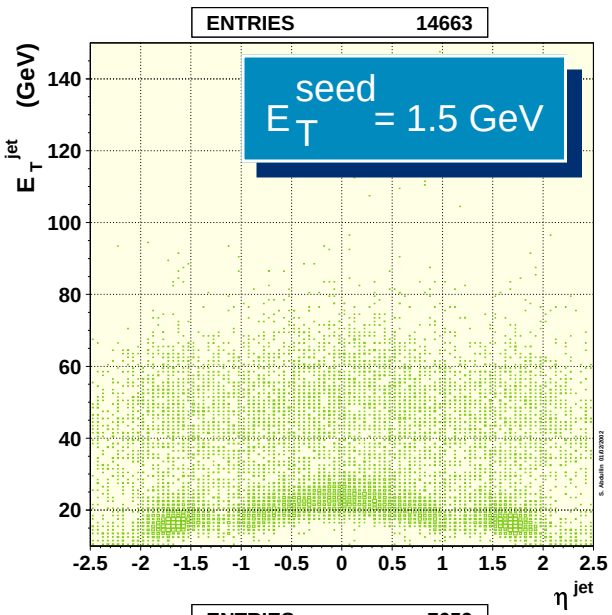
generated jets

- **IterativeConeAlgorithm on RawHepEventParticle & EcalPlusHcalTowe**
  - R = 0.5
  - E_T^{jet} = 10 GeV
  - Fixed seed E_T generated jets = 1 GeV

reconstructed jets

JET MULTIPLICITY (I)

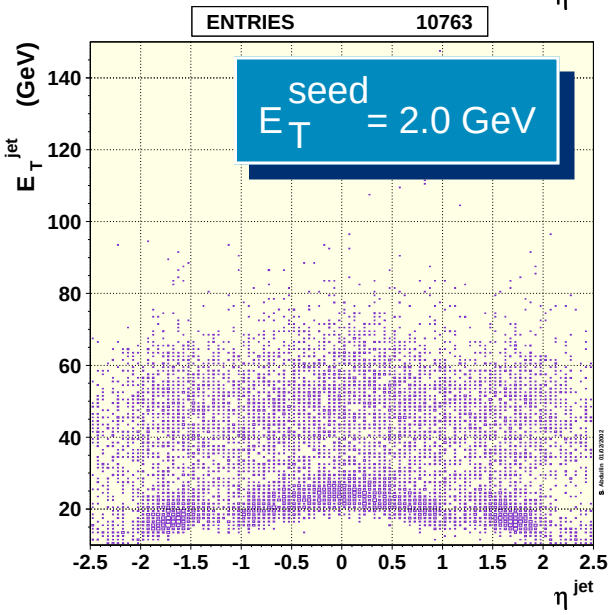


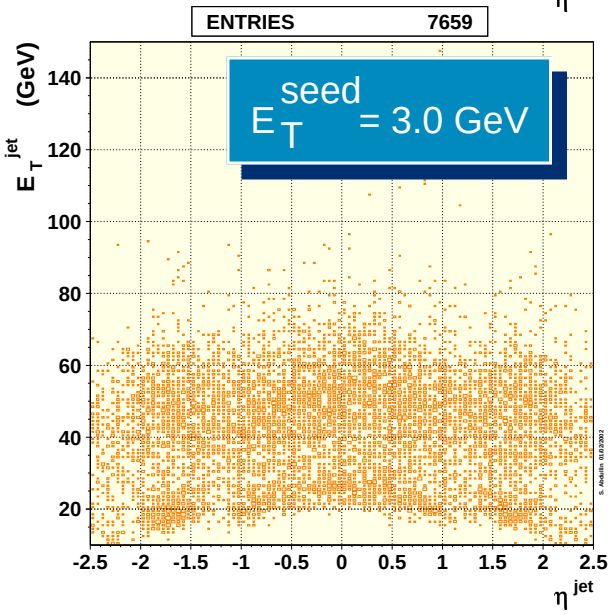


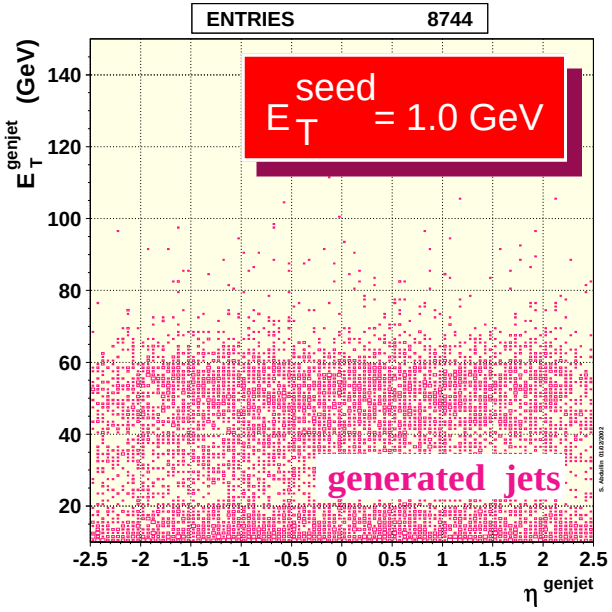
~1 σ cut

Readout cuts : EB = 0.03 GeV
EE = 0.15 GeV
HCAL = 0.50 GeV

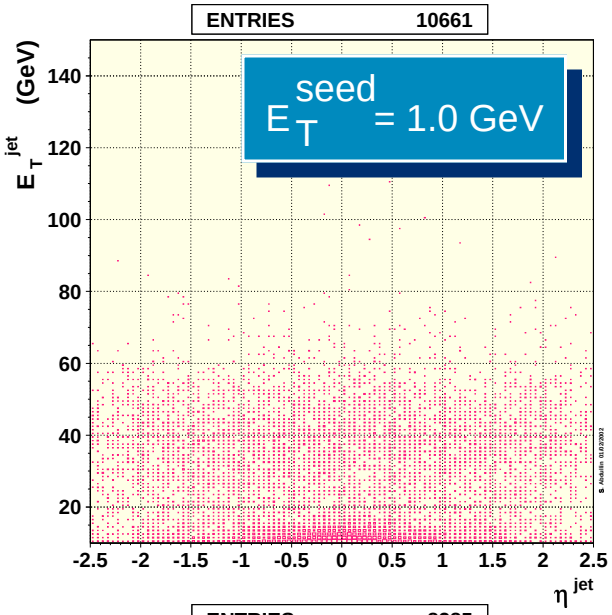
no cuts on Towers

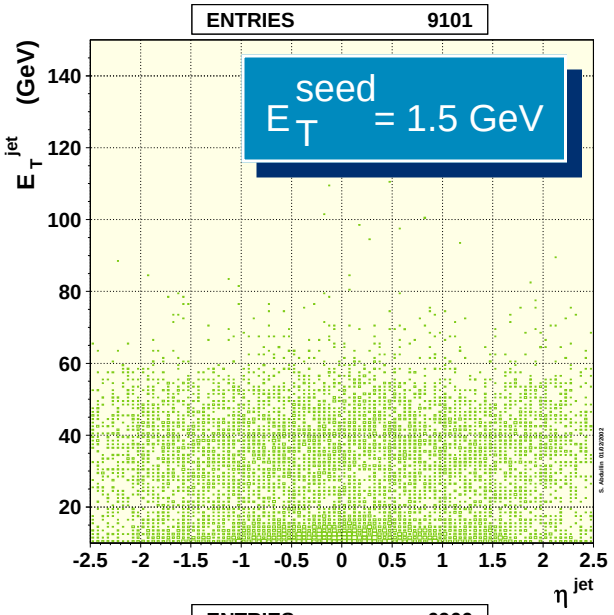






JET MULTIPLICITY (II)

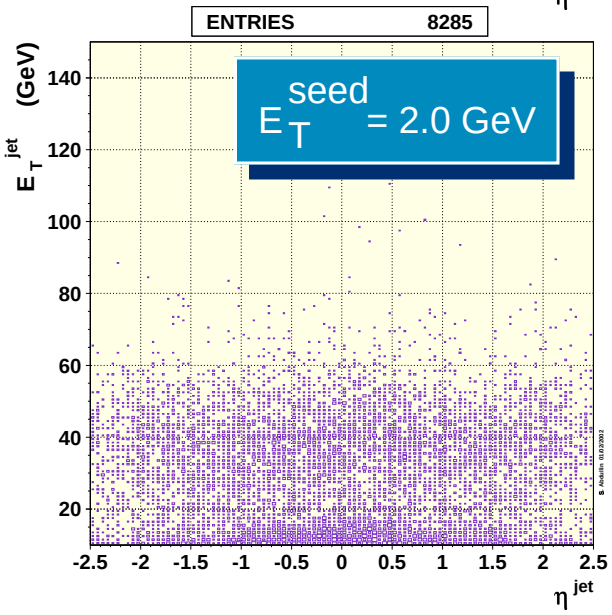


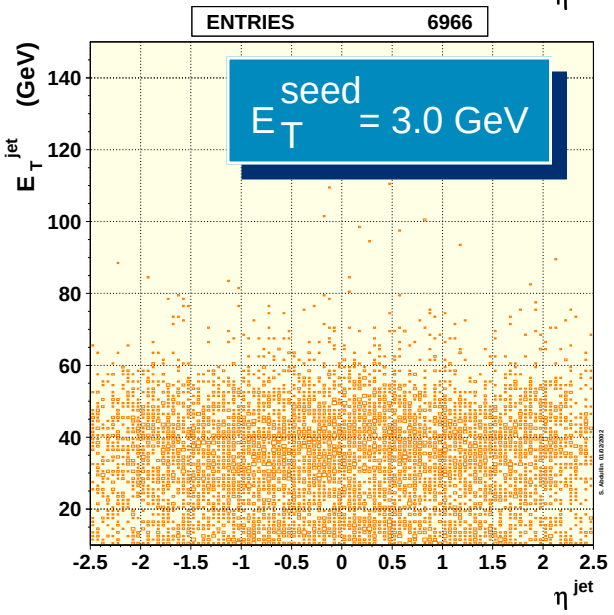


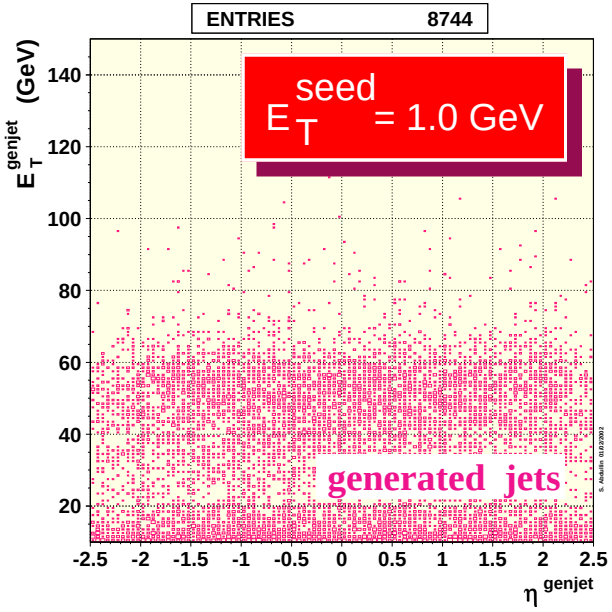
~2 σ cut

Readout cuts : EB = 0.06 GeV
EE = 0.30 GeV
HCAL = 0.50 GeV

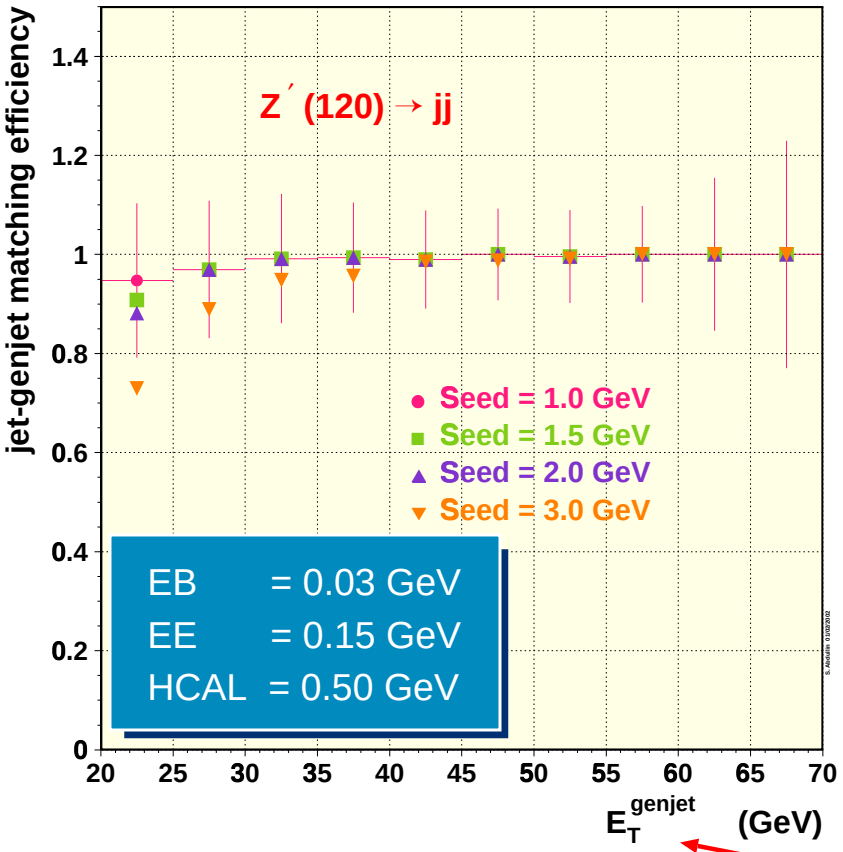
no cuts on Towers

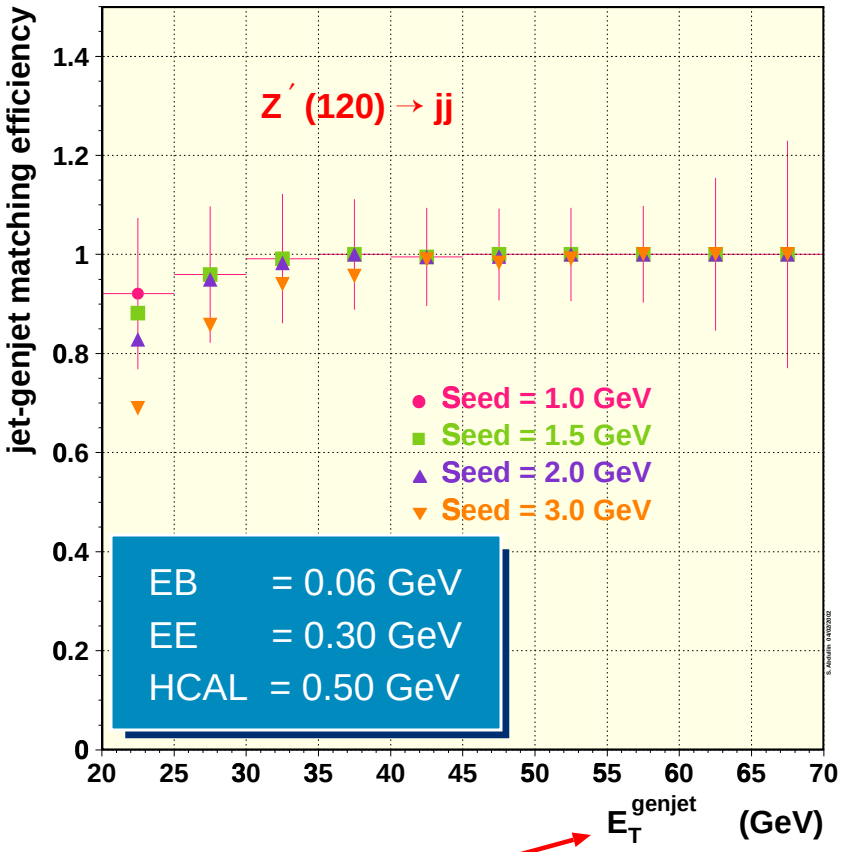






JETFINDING EFFICIENCY VS SEED CUT





E_T^{seed} = 1.0 GeV

☞ **Seed cut of ~2 GeV for reconstructed jets looks to be optimal ...**